

## DRAFT May 2017

### PPCPs (Pharmaceuticals and Personal Care Products): **Gemfibrozil**

Gemfibrozil helps reduce cholesterol and triglycerides (fatty acids) in the blood. High levels of these types of fat in the blood are associated with an increased risk of atherosclerosis (clogged arteries). Gemfibrozil is used together with diet to treat high cholesterol and triglyceride levels. Gemfibrozil is also used to lower the risk of stroke, heart attack, or other heart complications in people with high cholesterol and triglycerides who have not been helped by other treatment methods (Malloy and Kane 2012).

#### Reported effects of gemfibrozil from toxicity literature in the ECOTOX database (as of April 2016)

| Aquatic Life                | Reported Most Common effect(s)  | Reported Common study endpoint(s) | Reported Toxicity Value (LOEC, NOEC, EC50, LC50)  |
|-----------------------------|---|-----------------------------------|---|
| Fish                        | Reduced fertility, increased embryonic mortality, lower cholesterol, blocked testosterone | Chronic, Genotoxic, Mortality     | <b>Unit (mg/L)</b><br><b>96h LC50:</b> 0.9<br><b>96h EC50:</b> 1.18<br><b>LOEC:</b> 1<br><b>NOEC:</b> 0.1 (Quinn 2008)  |
| Water Flea, Other Planktons | Inhibited reproduction, Cell deformation, increased mortality in high concentrations      | Biomarker, Aquatic, Genotoxic     | <b>C.dubia-(mg/L):</b><br><b>EC50:</b> 0.53<br><b>NOEC:</b> 0.078<br><b>LOEC:</b> 0.156 (Isidori 2007)<br><b>LC50:</b> 30.3 (D. magna-Ra 2008)                        |
| Mussels                     | Increased stress  | Oxidative stress, biomarker       | NA  |
| Algae                       | Genetic damage  | Biomarker                         | L. minor <b>7d IC50:</b> 43.4 mg L-1  |
| Bacterium                   | DNA damage  | Genotoxic                         | Pseudokirchneriella subcapitata<br><b>72 h IC50:</b> 29.7 mg/L (Quinn 2011),<br><b>EC50:</b> Anabaena sp.: 1 h of exposure: 8.44, 24 h of exposure: 4.42 (Rosal 2010) |

Malloy, M.J. and J. P. Kane. (2012) Agents used in Dyslipidemia in Katzung B.G., S. B. Masters, A.J. Trevor, 12 Eds. Basic and clinical pharmacology. McGraw Hill. New York, NY, pp. 628-629.